UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
SE-5J

September 4, 2002

Mr. Richard Berggreen
STS Consultants
750 Corporate Woods Parkway
Vernon Hill, IL 60061

RE: Lakeshore East Workplan

Dear Mr. Berggreen:

The U.S. Environmental Protection Agency (USEPA) has reviewed the Workplan for the Lakeshore East Development (Workplan) dated June 24, 2002. USEPA has the following comments:

1) Page 4, Section 2.1, para. 2: A statement should be added on the potential or actual consequences of leaving contaminated soil. It is possible a legal document may be required for future notification when radioactive materials remain.

2) Page 4, Section 2.1, para. 3: It should be clear in this paragraph that final determinations of "clean" must be by soil concentration measurements (e.g., NUTRANL, gamma spectroscopy) not by gamma count rate measurements.

3) Page 8, Section 3.0, Methods: This section should include discussion of how offsite backfill will be screened to ensure it meets the criterion specified in Section 01020, "Construction Health and Safety," page 7 of 17, Section E(a)(1).

4) Page 8, Section 3.1, para. 2: The count rate to soil concentration calibration should be specified as using Kerr-McGee's thorium blocks at the West Chicago Rare Earths Facility.

5) Page 8, Section 3.2.1, para. 1: The identification of soil areas over 7.1 pCi/g was covered in two reports. This paragraph should distinguish which report is referred (or both, if that was the case).

6) Page 9, para. 1: The method by which the gamma count rate background will be determined should be discussed. This method will provide the number by which "twice background" is set.

7) Page 9, para. 2: The method by which the five subsamples will be collected for compositing should be written down.

8) Page 10, para. 3: In addition to items a) and b) gamma spectroscopy samples may be used to document areas where removal is necessary and where removal has been successful.

9) Page 10, Section 3.2.3, Verification Sampling: RSSI is referenced in the last paragraph of this page. However, Glen Huber is listed on Figure 3. Please clarify.

10) Page 12, bullet 3: Contaminated water cannot be used for dust control except on contaminated soils.

11) Page 15, Section 4.0, Health and Safety Plan Summary: Dust Control Plan is in Appendix C not Appendix B.

12) Page 18, Section 4.5, Air Monitoring: The elaborate dust control dust measures that could be needed should be listed in this section or directed to and stated in the Dust Control Plan.

13) Page 19, Section 4.5.2: 32 IAC are Illinois regulations that only apply when more stringent than Federal regulations. Material in this document, in some places, makes reference to Illinois regulations that are less stringent. *This paragraph should be written to make clear the priority of Federal regulations and reference the appropriate Federal regulations*.

14) Sheet #1: The source report for the elevated gamma radiation areas should be referenced.

15) Sheet # 2: The locations for the "Impacted Soil Boring" sites are difficult to find on this map.

16) SOP-210: A criterion for gamma radiological surveys is twice background. This SOP, or another, must describe how backgrounds will be determined for gamma count rate and for gamma dose rate.

17) SOP-210, Section 5.0: The accuracy to which the GPS system will determine position should be included here. The data software to be used of processing the data should also be named.

18) SOP-212, Section 5.1: A ten hour collection for the air background is a very short time period. The accuracy of such a measurement may be limited since air levels change with time and these changes will be due to many factors (weather, sources, etc.).

19) SOP-212, Section 5.2.3: This section only commits to perimeter air monitoring. In Section 4.5, the last sentence commits to more extensive control measures if necessary. This SOP should make the same commitment.

20) SOP-212, Section 5.3: This section should commit to proper siting of the air monitors, including an unobstructed path from the source to the sampler.

21) SOP-212, Section 5.4.1: Gross alpha measurements for determining air concentrations should include an adjustment for the number of alpha particles (There are 6 in the equilibrium Thorium Decay Series) and the loss of radon-220 and its decay products between the source and the air filter.

22) SOP-212, Section 5.4.2.4: The proper citation should be 10 CFR 20.

23) SOP-212, Section 10.1.5: Only objects that do not pass through a 1/4 inch grid screen should be retained.

24) SOP-345, Section 2.0: The dominant references are 10 CFR 20 and Regulatory Guide 1.86.

25) SOP-345, Attachment 2, item 9, bullet 1: Unless the PAC-4G will be used at this site, the actual instrument should be the one referenced.

26) SOP-345, Attachment, Table: The limits for this table are those of the Nuclear Regulatory Commission's Regulatory Guide 1.86 unless Illinois limits are more restrictive.

27) SOP 347, References and Section 3.2---2.0: The dominant references are 10 CFR 20 and Regulatory Guide 1.86.

28) SOP-347, Section 3.15: In addition to TLD's, optically stimulated luminescence dosimeters (OSL's) are now available. If OSL's will be used as the dosimeter, it should be the one referenced here.

29) SOP-364, Section 2.0: The dominant references are those of the Nuclear Regulatory Commission.

30) SOP-364, Section 4.2.1: There is specialized equipment listed here that may not be used by every contractor (e.g, Bico-Braum Pulverizer, Braum-Chipmunk Crusher). The sample preparation equipment and procedures should be those used by the contractor utilized for this project. Procedures and methods may be subject to audit.

31) SOP-366, Section 2.0: The dominant references must be those of the Nuclear Regulatory Commission and of the equipment actually to be used by the contractor.

Any gamma spectroscopy analyses done absolutely must be done with:

- a Gamma Fraction Limit of 71% and a Library Energy Tolerance of 1.2 keV.

Further;

- The sample collection date and the sample analysis date must be provided for each sample.
- All analyses must come with full data printouts that, at the least, show all radionuclides detected and their concentrations, all gamma energies detected, and all gamma energies of unknown peaks, with their concentrations. Data limited to a few specific radionuclides at a few specific energies will not be acceptable.
- For radium-226 analyses, at the least, the concentrations found for radium-226 at 186 keV, lead -214 at 352 keV and bismuth-214 at 609 keV must be provided.
- The gamma energy library must be available upon request.
- A background spectrum report must be provided that, at the least, shows all radionuclides detected and their concentrations, all gamma energies detected, and all gamma energies of unknown peaks, with their concentrations.

32) Emergency Contingency Plan, Secondary Emergency Numbers: The USEPA Region 5 emergency number should be listed as a primary number. The IDNS emergency number can be a secondary number.

33) Transportation and Logistics Plan, para. 5: The hours listed should be those actually set by the City of Chicago.

34) Verification Sampling Plan: This plan (or a similar plan) should contain the procedure to be used to verify incoming backfill meets radiological limits [see Section 01020, "Construction Health and Safety," on page 7 of 17, Section E(a)(1)].

35) Section 01010, Section 1.1, Item B(c): There should be a similar item discussing the method to be used to determine the gamma count rate and gamma exposure (or dose) rate.

36) Section 02010, Demolition and Debris Removal, page 7 of 8, paragraph c: Sheeting must not be used for overnight storage.

37) Section 02200, Page 3 of 17, Section 1.7(C): The radioactive concentration of the backfill must meet required limits of Part 2, Section 2.1(E).

38) Section 02200, Table 02200-1: These guidelines from Regulatory Guide 1.86 are those that have been emphasized in comments above. These are the ones to be met, unless IDNS guidelines are more stringent (See discussion above).

39) Appendix E, Health and Safety Plan, page 10, Section 4.3.2: Allowable dosimetry may also include optically stimulated luminescence dosimeters (OSL's).

40) Appendix E, Health and Safety Plan, page 31, Section 7.5: The instrument list must include the instruments that will actually be used on this project.

41) Appendix E, Health and Safety Plan, page 33, Table 7-1: These guidelines are not the appropriate ones. Those from Nuclear Regulatory Commission Regulatory Guide 1.86 must be used unless Illinois guidelines are more stringent.

42) Appendix E, Health and Safety Plan–Add hospital route map.

Please make the necessary workplan modifications by October 4, 2002.

If you have questions regarding this letter, please contact me, as soon as possible, at (312) 886-5123 or contact Verneta Simon, On-Scene Coordinator, at (312) 886-3601, or Larry Jensen, Senior Health Physicist at (312) 886-5026.

Sincerely,

Fredrick A. Micke

Fredrick A. Micke, P.E.
On-Scene Coordinator
ERB Section #3

cc: Lakeshore East L.L.C.

bcc: Larry Jensen, SE-5J
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